

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of Olson et al.

Art Unit 3761

Serial No. 10/038,863

Filed December 31, 2001

Confirmation No. 6380

For WETNESS INDICATOR FOR ALERTING A WEARER TO URINATION

Examiner: Michelle Kidwell

June 28, 2006

AMENDED APPEAL BRIEF

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TABLE OF CONTENTS

TABLE OF AUTHORITIES .....	ii
I. REAL PARTY IN INTEREST .....	1
II. RELATED APPEALS AND INTERFERENCES .....	1
III. STATUS OF CLAIMS .....	2
IV. STATUS OF AMENDMENTS .....	2
V. SUMMARY OF CLAIMED SUBJECT MATTER .....	2
VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL .....	4
VII. ARGUMENT .....	5
<b>A. Claims 1-5, 7-17, 20, 22, and 23 are unanticipated by     and patentable over U.S. Patent No. 6,221,460 (Weber et     al.)</b> .....	5
<b>B. Claims 1, 2, 11-18, 22-24, and 30 are unanticipated by     and patentable over U.S. Patent No. 5,797,892 (Glaug et     al.)</b> .....	13
<b>C. Claims 25-28 are nonobvious and patentable over U.S.     Patent No. 5,797,892 (Glaug et al.)</b> .....	20
VIII. CONCLUSION .....	23
CLAIMS APPENDIX .....	24
EVIDENCE APPENDIX .....	31
RELATED PROCEEDINGS APPENDIX .....	32

TABLE OF AUTHORITIES

**REFERENCES**

Sensory Publishing, Inc., Manual of Patent Examining Procedure, 8th Ed., Rev. Two (2004), §2112. ....	8
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**CASES**

<i>In re Casey</i> , 152 U.S.P.Q. 235 (CCPA 1967). ....	12
<i>In re Otto</i> , 136 U.S.P.Q. 458, 459 (CCPA 1963). ....	12
<i>Ex parte Levy</i> , 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). ....	8
<i>In re Robertson</i> , 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed.Cir.1999). ....	8
<i>In re Rijckaert</i> , 9 F.3d 1531, 1534 (Fed. Cir. 1993). ....	8
<i>In re Ochiai</i> , 37 U.S.P.Q.2d 1127, 1133 (Fed. Cir. 1996). ....	21
<i>In re Bezombes</i> , 164 U.S.P.Q. 387, 391 (CCPA 1970). ....	21

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**AMENDED APPEAL BRIEF**

This is an appeal from the final rejection of the claims pending in the above-identified application as set forth in the final Office action dated August 25, 2005. A Notice of Appeal was filed on October 21, 2005.

This Amended Appeal Brief is being submitted in response to the Notification of Non-Complaint Appeal Brief dated June 15, 2006. Each of the deficiencies raised by the Examiner is addressed herein. Accordingly, the Brief is submitted to be in proper form.

**I. REAL PARTY IN INTEREST**

The real party in interest in connection with the present appeal is Kimberly-Clark Worldwide, Inc. of 401 N. Lake Street, Neenah, Wisconsin 54957-0349, a corporation of the state of Delaware, owner of a 100 percent interest in the pending application.

**II. RELATED APPEALS AND INTERFERENCES**

Appellants are unaware of any pending appeals or interferences which may be related to, directly affect or be directly affected by, or have a bearing on, the Board's decision in the pending appeal.

### **III. STATUS OF CLAIMS**

Claims 1-18, 20, 22-28 and 30-31 are currently pending in the application. Claims 19, 21, and 29 were previously canceled. A copy of the pending claims appears in the Claims Appendix of this Brief.

Claims 1-5, 7-17, 20, 22, and 23 stand rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 6,221,460 (Weber et al.). Claims 1, 2, 11-18, 22-24, and 30 stand rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 5,797,892 (Glaug et al.). Claim 6 stands rejected under 35 U.S.C. §103(a) as being obvious in view of Weber et al. Claims 25-28 and 31 stand rejected under 35 U.S.C. §103(a) as being obvious in view of Glaug et al.

The rejection of claims 1-5, 7-18, 20, 22-28 and 30-31 is being appealed.

### **IV. STATUS OF AMENDMENTS**

No amendments have been filed after the final rejection.

### **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The following summary correlates claim elements to specific embodiments described in the application specification, but does not in any manner limit claim interpretation. Rather, the following summary is provided only to facilitate the Board's understanding of the subject matter of this appeal.

With reference to the present specification and drawings, one aspect of the claimed subject matter (i.e., claim 1) is directed to a wetness indicator 39 for alerting a wearer to urination. See page 1, lines 4-6, page 4, line 20, and Fig. 1. The wetness indicator 39 comprises a liquid permeable enclosure 51 having an interior volume and a liquid absorbent body 55

therein. See page 6, lines 15 and 16, page 8, lines 18-24, and Figs. 3 and 4. The liquid absorbent body 55 absorbs liquid in the presence thereof and has an unrestrained volume upon absorption of a preselected amount of liquid. See page 8, lines 21-24. The unrestrained volume of the absorbent body 55 is substantially greater than the interior volume of the enclosure 51 such that the absorbent body applies an expansion pressure to the enclosure upon absorption of the preselected amount of liquid. See page 8, lines 18-24. The enclosure 51 limits expansion of the absorbent body 55 so that the wetness indicator 39 stiffens as liquid is absorbed. See page 8, lines 21-24. The wetness indicator 39 has a first stiffness when dry and a second stiffness greater than the first stiffness upon absorption of the preselected amount of liquid. See page 8, lines 13-16 and 25-27.

In another aspect, the claimed subject matter (i.e., claim 12) is directed to a garment 21 comprising an inner surface 36 facing a wearer when wearing the garment (see page 4, lines 11 and 12 and Figs. 1, 2, and 5), and a wetness indicator 39 positioned relative to the inner surface for alerting the wearer when the inner surface becomes wet with liquid. See page 5, lines 22-24 and Figs. 1, 2, and 5. The wetness indicator 39 has a first stiffness when dry and a second stiffness greater than the first stiffness upon absorption of a preselected amount of liquid. See page 8, lines 13-16 and 25-27. The wetness indicator 39 comprises a liquid permeable enclosure 51 having an interior volume and a liquid absorbent body 55 therein. See page 6, lines 15 and 16, and page 8, lines 18-24, and Figs. 3 and 4. The absorbent body 55 has an unrestrained saturated volume greater than the interior volume of the liquid permeable enclosure. See page 8, lines 21-24.

In yet another aspect, the claimed subject matter (i.e., claim 25) is directed to an article 21 for personal wear capable of alerting a wearer to the wearer's release of liquid body exudates. See page 4, lines 20-22 and Fig. 1. The article 21 comprises a front region 33, a back region 35, and a crotch region 31 interconnecting the front and back regions and extending generally longitudinally therebetween. See page 4, lines 5-11 and Figs. 1, 2, and 5. A generally elongate wetness indicator 39 is positioned in the crotch region 31 so as to come in contact with the liquid body exudates. See page 4, lines 20-22, page 6, lines 1-3, and Figs. 1, 2, and 5. The wetness indicator 39 has a first stiffness when dry and a second stiffness greater than the first stiffness upon absorption of a preselected amount of the liquid body exudates. See page 8, lines 13-16 and 25-27. The wetness indicator 39 is positioned transversely in the crotch region 31 such that opposite ends of the wetness indicator provide a tactile sensation to the inner thighs of the wearer for alerting the wearer to the release of liquid body exudates. See page 9, lines 24-29 and Figs. 1, 2, and 5.

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

A. Appellants appeal the rejection of claims 1-5, 7-17, 20, 22, and 23 under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 6,221,460 (Weber et al.).

B. Appellants appeal the rejection of claims 1, 2, 11-18, 22-24, and 30 under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 5,797,892 (Glaug et al.)

C. Appellants further appeal the rejection of claims 25-28 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,797,892 (Glaug et al.).

**VII. ARGUMENT**

**A. Claims 1-5, 7-17, 20, 22, and 23 are unanticipated by and patentable over U.S. Patent No. 6,221,460 (Weber et al.)**

Claims 1-5 and 7-11

Claim 1 is directed to a wetness indicator comprising:

a liquid permeable enclosure having an interior volume and a liquid absorbent body therein,

the liquid absorbent body absorbing liquid in the presence thereof and having an unrestrained volume upon absorption of a preselected amount of liquid,

the unrestrained volume of the absorbent body being substantially greater than the interior volume of the enclosure such that the absorbent body applies an expansion pressure to the enclosure upon absorption of the preselected amount of liquid,

the enclosure limits expansion of the absorbent body so that the wetness indicator stiffens as liquid is absorbed,

the wetness indicator has a first stiffness when dry and a second stiffness greater than the first stiffness upon absorption of the preselected amount of liquid.

The essence of the wetness indicator recited in claim 1 is that the absorbent body has an unrestrained volume upon absorption of a preselected amount of liquid that is substantially greater than the interior volume of the enclosure. As a result, upon absorption of liquid, the absorbent body expands within the enclosure and applies an expansion pressure to the enclosure. Additionally, the enclosure limits the expansion of the absorbent body. See Page 9, lines 20-21 of the present application. That is, the enclosure restrains the absorbent body from expanding to its unrestrained volume. If the liquid permeable enclosure 51 were



too expandable, absorption of the preselected amount of liquid would simply expand the wetness indicator (e.g., the enclosure) without causing it to lose some of its pliability, i.e., become stiffer to the second stiffness as recited in claim 1. See Page 9, lines 21-24 of the present application.

Claim 1 is submitted to be unanticipated by and patentable over the references of record, and in particular Weber et al., in that whether considered alone or in combination the references fail to show or suggest a wetness indicator having the combination of 1) an enclosure having an interior volume and a liquid absorbent body therein wherein an unrestrained volume of the absorbent body is substantially greater than the interior volume of the enclosure to apply an expansion pressure to the enclosure and 2) the enclosure being constructed to limit expansion of the absorbent body so that the stiffness of the wetness indicator increases as liquid is absorbed by the absorbent body.

Weber et al. disclose a liner (12) for use with personal care absorbent articles, such as diapers, designed to provide a path for increased air circulation and also to reduce the total surface area of the liner in contact with the infant's skin. The liner (12) forms the air-circulation paths by providing a plurality of peaks (48) separated by channels (51) at spaced-apart intervals across the surface of the liner. With particular reference to Figs. 1-3 and 6a-e of Weber et al., the peaks (48) can be formed by creating pairs of inwardly facing folds (44) and (46) in a facing layer (40). In another embodiment (Figs. 8 and 9), the peaks can be formed by separate strips that are attached to the liner of the article.

Disposed within the peaks (48) is a liquid absorbent material (50) capable of absorbing body exudates or liquids in general. The absorbent material (50) may include components

such as wood pulp, fluff, tissue, superabsorbent particles and fibers, odor reducing agents and antimicrobial agents.

To support a rejection under 35 U.S.C. §102, each and every claim limitation must be expressly or inherently disclosed in a single prior art reference. See MPEP §2131 and cases cited therein. While expressly stated in the final Office action, the Examiner's position is clearly grounded in inherency. In particular, the only features of claim 1 that are alleged by the Examiner to be expressly disclosed by Weber et al. are 1) a liquid permeable enclosure having an interior volume, for which the Examiner relies on the enclosed topsheet (40) secured to the support layer in Figs. 6a-e of Weber et al. and 2) an absorbent body that expands upon absorbing a preselected amount of liquid, for which the Examiner relies on the absorbent material (50) including superabsorbent material that can absorb up to four times its weight in liquid.

The Examiner provides no evidence, however, of any express disclosure by Weber et al. that the absorbent material (50) has 1) an unrestrained volume upon absorbing a preselected amount of liquid that is greater than the interior volume of the peaks (48) and 2) that the peaks limit expansion of the absorbent material so that 3) the peaks stiffen upon absorption by the absorbent material (50) of a preselected amount of liquid. In fact, Weber et al. disclose neither of these features. Rather, the Examiner merely concludes that such features are inherently present in the disclosure of Weber et al. because the topsheet (40) defines an enclosure and superabsorbent material absorbs in the absorbent material absorbs up to four times its weight in liquid.

To establish inherency, the reference must make clear that the missing descriptive matter "is necessarily present in the thing described in the reference, and that it would be so

recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. MPEP § 2112 citing *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999); *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993); and *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). The Examiner in the present case has not established that any of the features set forth in the previous paragraph are necessarily present in Weber et al. In particular, there is no disclosure whatsoever, either in the cited passage or elsewhere, that provides any basis for the Examiner to conclude that swelling of the superabsorbent material in the absorbent material (50) is sufficient to expand the absorbent material enough to apply an expansion pressure to the peaks (48) (e.g., the topsheet (40)), and more particularly to apply enough expansion pressure to the peaks to actually stiffen the peaks.

At page 12 of the final Office action, the Examiner takes the position that the liquid permeable enclosure (e.g., topsheet (40) of Weber et al.) limits the expansion of the absorbent body (e.g., absorbent material (50) of Weber et al.) because without the enclosure, the superabsorbent material would swell to at least four times its weight when wetted. The Examiner particularly relies on Figs. 6a-e of Weber et al. (see also page 3 of the final Office action) for support. However, Weber et al. disclose only that the superabsorbent material is capable of absorbing four times its weight in water and teaches nothing of the superabsorbent material swelling to four times its initial size, i.e., there is no teaching that an increase in weight of the superabsorbent material equates to an equal swelling in size. Also, Weber et al. fail to disclose the

effect that any increase in size of the superabsorbent material will have on the unrestrained volume of the absorbent material that contains the superabsorbent material.

The Examiner also provides no teaching by Weber et al. as to why the peaks would limit expansion of the superabsorbent material. That is, why can't the superabsorbent material not expand without the facing layer of the peak limiting its expansion as recited in claim 1 of the present application? Figs. 6a-e of Weber et al. as relied on by the Examiner clearly illustrate that facing layer 40 defines an interior volume that is substantially larger than the absorbent material 50 enclosed by the facing layer. There is no teaching by Weber et al. that the absorbent material will expand to a size larger than the interior volume of the enclosure defined by the facing layer.

Moreover, Weber et al. do not disclose how much superabsorbent material is in the absorbent material (50). It is quite possible that an insufficient amount of superabsorbent material is present to cause any swelling of the absorbent material at all, i.e., any swelling of superabsorbent material is taken into voids within the absorbent material (50) and the absorbent material as a whole does not expand. Weber et al. further lack any express disclosure of how much space the absorbent material takes up within the peaks. There may be plenty of room within the peaks for the absorbent material to expand without applying any expansion pressure to the peaks. See, e.g., Figs. 6a-e of Weber et al. in which the absorbent material is illustrated as being substantially smaller than the interior volume of the peak (e.g., as defined by the topsheet (40). Thus, in such an embodiment, even if the absorbent material (50) expands some amount it may not expand to a volume greater than the interior volume of the peak.

The Examiner also maintains that column 7, lines 16-23 of Weber et al. discloses the increase in stiffness recited in claim 1. However, as appellants have noted in prior communications, this cited passage actually states only that the absorbent material (50) may include superabsorbent material that can absorb at least four times its weight. From this disclosure the Examiner again leaps to the conclusion that 1) absorbing four times its weight equates to swelling of the superabsorbent to four times its original size (and Weber et al. makes no such disclosure) and 2) that such swelling (if it indeed occurs) of the superabsorbent material causes the absorbent material (50) to expand and apply expansion pressure to the peaks (48) and that such expansion causes the peaks to stiffen.

As noted previously, even if the absorbent material (50) is caused to expand, Weber et al lack any disclosure of the size of the unrestrained volume (e.g., unrestrained expansion) of the absorbent material (50) relative to the size of the interior volume of the peaks (48) defined by the topsheet (40). Moreover, the topsheet (40) that forms the peaks may itself be sufficiently expandable such that the peaks do not limit expansion of the absorbent material (50) at all, i.e., the peaks may simply expand along with the absorbent material (and appellants reiterate their position that Weber et al. fail to disclose that such expansion of the absorbing material as a whole is itself a necessary result based on the disclosure of Weber et al.).

Accordingly, the fact that the topsheet (40) may have a defined interior volume and the absorbent material (50) of Weber et al. may include some unspecified amount superabsorbent material is insufficient, by itself, to render it necessary that the absorbent material will expand enough to apply an

expansion pressure to the topsheet, and that the topsheet will limit such expansion to thereby stiffen the peak. Absent a disclosure by Weber et al. of the unrestrained expandability of the absorbent material relative to the interior volume of the peak, and the ability of the facing layer of the peak to limit expansion of the absorbent material, the Office has no basis for concluding that the absorbent material (50) within each peak necessarily has an unrestrained volume that is substantially greater than the volume of the peak and thus capable of sufficiently expanding to apply an expanding pressure to the facing layer to thereby stiffen each peak.

Finally, at page 14 of the final Office action the Examiner asserts that that appellants' position improperly relies on a recitation of the intended use of the claimed invention rather than the structural differences between the claimed wetness indicator and the cited art. Appellants respectfully disagree.

Claim 1 clearly recites the 1) the liquid permeable enclosure having an interior volume; 2) and the liquid absorbent body disposed within the interior volume of the enclosure. The recitation of 3) the absorbent body having an unrestrained volume upon absorption of a preselected amount of liquid is indeed a structural recitation, i.e., dependent on the structural aspects of the absorbent body. Likewise, the recitation of 4) the unrestrained volume of the absorbent body being greater than the interior volume of the enclosure is also an unmistakable structural feature relating the relative sizes of two structural components. Finally, the recitation of 5) the enclosure limiting expansion of the absorbent body is also a structural recitation. None of the above features rely on or are specific to the intended use of the recited wetness indicator.

Nor have appellants presented arguments which distinguish the claimed wetness indicator from identical structure in the prior art solely (or even partly) on the basis of the use or method of making the claimed structure. Appellants' arguments are directed solely to the structural features recited in claim 1 (i.e., structural elements 1)-5) in the previous paragraph. Thus, the cases cited by the Examiner, *In re Casey*, 152 U.S.P.Q. 235 (CCPA 1967) and *In re Otto*, 136 U.S.P.Q. 458, 459 (CCPA 1963), are inapplicable to the present case. In each of the cited cases, the applicant failed to assert structure within the claim to distinguish the prior art. In *Casey*, the applicant merely argued that the prior art was not used as a tape dispenser without specifying what structure in the claim distinguished the prior art. In *Otto*, the applicant argued solely that the claimed hair roller was made differently and used in a different way than the prior art.

Rather, appellants have asserted only that Weber et al. lacks the same structural features recited in claim 1, and in particular the absorbent body having an unrestrained volume upon absorption of a preselected amount of liquid; the unrestrained volume of the absorbent body being greater than the interior volume of the enclosure; and the enclosure limiting expansion of the absorbent body.

For the above reasons, claim 1 is submitted to be unanticipated by and patentable over Weber et al.

Claims 2-5 and 7-11 depend directly or indirectly from claim 1 and are submitted to be unanticipated by and patentable over Weber et al. for at least the same reasons as claim 1.

Claims 12-17, 20, 22, and 23

Claim 12 is directed to a garment that comprises, among other elements, a wetness indicator comprising a liquid permeable enclosure having an interior volume and a liquid absorbent body therein, the absorbent body having an unrestrained saturated volume greater than the interior volume of the liquid permeable enclosure, wherein the wetness indicator has a first stiffness when dry and a second stiffness greater than the first stiffness upon absorption of a preselected amount of liquid.

Claim 12 is submitted to be unanticipated by and patentable over Weber et al. for at least the same reasons as claim 1. That is, Weber et al. fail to disclose a wetness indicator comprising a liquid permeable enclosure having an interior volume and a liquid absorbent body therein wherein an unrestrained volume of the absorbent body is substantially greater than the interior volume of the enclosure and 2) the indicator having a first stiffness when dry and greater second stiffness upon absorption of a preselected amount of liquid.

Claims 13-17, 20, 22, and 23 depend directly or indirectly from claim 12 and are submitted to be unanticipated by and patentable over Weber et al. for the same reasons as claim 12.

**B. Claims 1, 2, 11-18, 22-24, and 30 are unanticipated by and patentable over U.S. Patent No. 5,797,892 (Glaug et al.)**

Claims 1, 2, 11, and 30

Claim 1 is submitted to be unanticipated by and patentable over Glaug et al., in that the reference fails to show or suggest a wetness indicator comprised of the combination of 1) an enclosure having an interior volume and a liquid absorbent body therein wherein an unrestrained volume of the absorbent



body is substantially greater than the interior volume of the enclosure to apply an expansion pressure to the enclosure and 2) the enclosure being constructed to limit expansion of the absorbent body so that the stiffness of the wetness indicator increases as liquid is absorbed by the absorbent body.

Glaug et al. disclose (with particular reference to Fig. 6 thereof) a toilet training aid in the form of a pad (80) that includes both a temperature change member (54) and a dimensional change member (82) disposed within a pocket formed by a wet sensation layer (56) (e.g., a topsheet) and a support layer (58). According to Glaug et al., the dimensional change member (82) (e.g., a compressed cellulose sponge) is capable of expanding (e.g., in height) upon wetting thereof up to about ten times the height of the dimensional change member when dry.

Again the Examiner's position is clearly grounded in inherency. In particular, the only features of claim 1 that are alleged by the Examiner to be expressly disclosed by Glaug et al. are 1) a liquid permeable enclosure having an interior volume, for which the Examiner relies on the bonding of wet sensation layer (56) to underlying support layer (58) (see page 6 of final Office action) and 2) an absorbent body that expands upon absorbing a preselected amount of liquid, for which the Examiner relies on the dimensional change member (82) that expands in height to at least 2 times its dry height and as noted particularly at column 16, lines 4-8 of Glaug et al. it may expand up to 10 times its dry height (see page 6 of final Office action).

The Examiner provides no evidence, however, of any express disclosure by Glaug et al. that 1) the dimensional change member (82) has an unrestrained volume upon absorbing a preselected amount of liquid that is greater than the interior volume of the pocket formed by bonding the wetness sensation

layer (56) to the support layer (58) and 2) that the wetness sensation layer (56) will limit expansion of the dimensional change member (82) so that 3) the wetness sensation layer stiffens upon absorption by the dimensional change member. In fact, Glaug et al. disclose neither of these features. Rather, the Examiner merely concludes that such features are inherently present in the disclosure of Glaug et al. because the wetness sensation layer (56) and support layer (58) form an enclosure and the dimensional change member (82) expands within the enclosure.

Glaug et al., however, fail entirely to disclose or otherwise even suggest that the dimensional change member (82) necessarily has an unrestrained volume upon absorbing a preselected amount of liquid that is greater than the interior volume of the pocket formed by the wet sensation layer (56) and support layer (58) and that the wet sensation layer and support layer together necessarily limit expansion of the dimensional change member so that the pocket necessarily stiffens upon absorption by the dimensional change member of a preselected amount of liquid.

In support of the Examiner's rejection of claim 1, the Examiner relies on the disclosure at column 15, line 40 to column 15, line 41 by Glaug et al. that the dimensional change member is made of a compressed cellulose sponge that expands to at least 2 times its dry dimension and as noted particularly at column 16, lines 4-8 it may expand up to 10 times its dry dimension. As an example, Glaug et al. disclose that the dimensional change member may expand from 0.9 mm (dry) to a height of about 9.5 mm (wet).

While Glaug et al. indeed do disclose that the dimensional change member (82) may expand, there is no disclosure found anywhere in Glaug et al. as to the amount of the expansion of

the dimensional change member relative to the interior volume of the pocket formed between the wet sensation layer (56) and support layer (58). Specifically, there is no disclosure or even a suggestion that the height increase of the dimensional change member is substantially greater than the interior volume of such a pocket.

Moreover, Glaug et al. also lack any disclosure that the wet sensation layer and support layer together necessarily limit the expansion of the dimensional change member. For example, Glaug specifically disclose that the dimensional change member is capable of expanding at least 2 and up to 10 times its height when wet, but where does Glaug et al. disclose that this expansion is somehow limited by the wet sensation layer and support layer? In fact, no such disclosure exists. Indeed, without any teaching as to the relative size of the interior volume of the pocket compared to the unrestrained volume of the dimensional change member when wet, no such conclusion can be drawn one way or the other.

At page 6 of the final Office action, the Examiner specifically relies on column 5, lines 3-48 of Glaug et al. as disclosing that the periphery of wet sensation layer (56) (e.g., topsheet (52)) is bonded to the periphery of support layer (58). However, the fact that such bonding forms a pocket having a particular volume is insufficient to conclude that the unrestrained volume of the dimensional change member when wet is greater than the interior volume of the pocket as recited in claim 1. Again, Glaug et al. doesn't disclose what the interior volume is, either dimensionally or relative to the unrestrained volume of the dimensional change member.

The Examiner also relies on the disclosure at column 16, lines 34-37 for the proposition that the absorbent body disclosed by Glaug et al. inherently has a first stiffness when

dry and a greater second stiffness when wet. In particular, the cited passage states that the "material forming the dimensional change member 82 may be softened by mechanical means or other suitable techniques to be less noticeable until urination occurs." At best, this cited passage means that 1) unless otherwise softened, the dimensional change member is rather noticeable prior to urination, and 2) upon urination the dimensional change member becomes more noticeable. Appellants do not contest that expanding the dimensional change member will render it more noticeable. It will for the simple reason that it is now bulkier. But that does not make it stiffer, i.e., resistant against the wearer's thighs, as recited in claim 1.

Rather, as set forth in the present application, the recited change in stiffness results from the enclosure limiting the expansion of the absorbent body contained in the enclosure. That is, the enclosure prevents the absorbent body from expanding to its unrestrained volume and as a result it becomes taut, e.g., less pliable and therefore stiffer. As appellants noted at page 9, lines 21-24 of the present application, "[i]f the liquid permeable enclosure 51 were too expandable, absorption of the preselected amount of liquid would simply expand the wetness indicator 39 without causing it to lose some of its pliability. Likewise, the wet sensation layer (56) of Glaug et al. may be sufficiently expandable that expansion of the dimensional change member causes the wetness sensation layer to lose pliability. There is no disclosure found anywhere in Glaug et al. one way or the other.

Absent such a disclosure, i.e., the relative size of the interior volume of the pocket to the unrestrained volume of the dimensional change member, there is no basis in fact and/or technical reasoning to reasonably support the Examiner's

conclusion that the recited relationship necessarily flows from the teachings of Glaug et al.

Finally, at page 13 of the final Office action the Examiner asserts a dictionary definition of the term stiffness as meaning "lacking in responsiveness or impeded in movement," and contends that Glaug et al. (as well as Weber et al.) disclose the recited stiffness change because the delay in movement, i.e., the absorption of fluids, in the wetness indicator is greater once liquid has been absorbed versus when the wetness indicator is dry. Assuming for the sake of argument that the Examiner's definition is appropriate (i.e., lacking in responsiveness or impeded movement), the application of such a definition is clearly inapplicable.

The ability of liquid to move through an absorbent body refers to the permeability, wicking ability or absorbing characteristics of the absorbing body. These properties have no bearing on the stiffness of the absorbent body. Take, for example, a sponge. It is just as easily compressed, bent, etc. when it is half-saturated as it is when it is fully saturated, whether or not it can take in any additional liquid. Likewise, if the wet sensation layer (56) of Glaug et al. is not sized to provide an interior volume that is substantially smaller than the unrestrained volume of the dimensional change member (82), the dimensional change member will expand but the wetness sensation layer will not lose its pliability, i.e., become stiffer, whether or not the dimensional change member is able to absorb additional liquid.

The term "stiffness" is clearly used in the present application to refer to the pliability, e.g., the rigidity or firmness of the wetness indicator, such as being difficult to bend or flex. See, e.g., page 9, lines 21-26 of the present application. The recited liquid permeable enclosure upon

limiting the expansion of the absorbent body causes the enclosure to become less pliable, meaning that it becomes less easily bent, flexible or supple, e.g., easily yielding. See Random House Websters College Dictionary, Random House, 1995. Accordingly, the wetness indicator resists movement against the inner thighs of the wearer. See page 9, line 24-26 of the present application. Such a change in stiffness of the wetness sensation layer of Glaug et al. is clearly not a necessary result based on the disclosure of Glaug et al.

For the above reasons, claim 1 is submitted to be unanticipated by and patentable over Glaug et al.

Claims 2, 11, and 30 depend directly or indirectly from claim 1 and are submitted to be unanticipated by and patentable over Glaug et al. for the same reasons as claim 1.

Claims 12-18 and 22-24

Claim 12 is directed to a garment that comprises, among other elements, a wetness indicator comprising a liquid permeable enclosure having an interior volume and a liquid absorbent body therein, the absorbent body having an unrestrained saturated volume greater than the interior volume of the liquid permeable enclosure, wherein the wetness indicator has a first stiffness when dry and a second stiffness greater than the first stiffness upon absorption of a preselected amount of liquid.

Claim 12 is therefore submitted to be unanticipated by and patentable over Glaug et al. for the same reasons as claim 1. That is, Glaug et al. fail to disclose a wetness indicator comprising a liquid permeable enclosure having an interior volume and a liquid absorbent body therein wherein an unrestrained volume of the absorbent body is substantially greater than the interior volume of the enclosure and 2) the

indicator having a first stiffness when dry and greater second stiffness upon absorption of a preselected amount of liquid.

Claims 13-18 and 22-24 depend directly or indirectly from claim 12 and are submitted to be unanticipated by and patentable over Glaug et al. for the same reasons as claim 12.

**C. Claims 25-28 are nonobvious and patentable over U.S. Patent No. 5,797,892 (Glaug et al.)**

Claims 25-27

Claim 25 is directed to an article for personal wear capable of alerting a wearer to the wearer's release of liquid body exudates. The article comprises a front region, a back region and a crotch region interconnecting the front and back regions and extending generally longitudinally therebetween, and a generally elongate wetness indicator positioned in the crotch region so as to come in contact with the liquid body exudates. The wetness indicator has a first stiffness when dry and a second stiffness greater than the first stiffness upon absorption of a preselected amount of the liquid body exudates. The wetness indicator is positioned transversely in the crotch region such that opposite ends of the wetness indicator provide a tactile sensation to the inner thighs of the wearer for alerting the wearer to the release of liquid body exudates.

Claim 25 is submitted to be nonobvious and patentable over the references of record, and in particular Glaug et al., in that whether considered alone or in combination the references fail to disclose or suggest an article having an elongate wetness indicator that becomes stiff when wet and extends transversely within the crotch region of the article such that the opposite ends of the wetness indicator provide a tactile sensation to the inner thigh of the wearer.

When dry, the wetness indicator bends without perceptible resistance when subjected to force from the thighs. However, when wet, the wetness indicator becomes stiff, resisting the force applied by the thighs sufficiently to be tactilely perceived. The final Office action takes the position that it would have been obvious to one skilled in the art to position the wetness indicator transversely in the crotch region because it involves a mere rearranging of parts of an invention requiring only routine skill in the art. Appellants respectfully disagree.

There are no per se rules of obviousness. *In re Ochiai*, 37 U.S.P.Q.2d 1127, 1133 (Fed. Cir. 1996). Moreover, it has been held that rejections based on choice of design are improper. *In re Bezombes*, 164 U.S.P.Q. 387, 391 (CCPA 1970). The Office must show some teaching or suggestion in the prior art that would motivate one skilled in the art to make the alleged choice of design. Such motivation is clearly lacking in this case. Glaug et al. disclose the dimensional change member (and pad in general) as extending longitudinally. If such a pad were stiffened in accordance with the present invention (and appellants submit that it cannot be stiffened), it would have the undesirable tendency to urge the article containing the pad to straighten out toward the back and front of the crotch region, which can result in poor fit and leakage from the article. Further, since the pad is positioned longitudinally in the crotch region, the opposite ends of the pad would provide a tactile sensation to the front waist region and back waist region of the user's body, not the inner thighs.

The present invention extends an elongate wetness indicator transversely across the crotch region (e.g., so that it does not extend to the front and back of the crotch). As a result, upon stiffening, the wetness indicator applies pressure



against the wearer's inner thighs but otherwise does not negatively affect the fit and leakage retention properties of the article. Thus, appellants' wetness indicator extending transversely within the crotch region is not a mere rearrangement of parts, but is a unique feature intended to solve potential fit and leakage problems associated with prior designs while still providing a wetness indication function. There is no motivation found anywhere in Glaug et al. for providing this arrangement.

For these reasons, claim 25 is submitted to be nonobvious and patentable over the references of record.

Claims 26 and 27 depend directly or indirectly from claim 25 and are submitted to be patentable over the references of record for the same reasons as claim 25.

#### Claim 28

Claim 28 depends indirectly from claim 25 and further recites that the wetness indicator has a liquid permeable enclosure and a liquid absorbent body therein with the absorbent body having an unrestrained saturation volume that is greater than the volume of the enclosure.

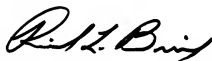
Claim 28 is further submitted to be patentable over the references of record for the same reasons as claim 1 discussed previously. That is, Glaug et al. fail to disclose or suggest that the dimensional change member (82) therein has an unrestrained saturation volume greater than the volume of the enclosure formed by the wetness sensation layer and the support layer.

**VIII. CONCLUSION**

For the reasons stated above, appellants respectfully request that the Office's rejections be reversed and that claims 1-18, 20, 22-28 and 30-31 be allowed.

While no fee is believed due at this time, the Commissioner is authorized to charge any fee due to Deposit Account No. 19-1345 in the name of Senniger, Powers.

Respectfully submitted,



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RLB/PEB/bcw

**CLAIMS APPENDIX**

1. A wetness indicator for alerting a wearer to urination comprising a liquid permeable enclosure having an interior volume and a liquid absorbent body therein, said liquid absorbent body absorbing liquid in the presence thereof and having an unrestrained volume upon absorption of a preselected amount of liquid, said unrestrained volume of the absorbent body being substantially greater than the interior volume of the enclosure such that the absorbent body applies an expansion pressure to the enclosure upon absorption of said preselected amount of liquid, said enclosure limiting expansion of the absorbent body so that the wetness indicator stiffens as liquid is absorbed, said wetness indicator having a first stiffness when dry and a second stiffness greater than said first stiffness upon absorption of said preselected amount of liquid.

2. A wetness indicator as set forth in claim 1 wherein said wetness indicator is generally elongate.

3. A wetness indicator as set forth in claim 1 wherein said absorbent body comprises a sheet laid over itself at least once to form at least two folds.

4. A wetness indicator as set forth in claim 3 wherein said absorbent body is formed from thin sheet material fan folded longitudinally multiple times to form a multifold structure.

5. A wetness indicator as set forth in claim 2 wherein said wetness indicator is generally rounded upon absorption of said preselected amount of liquid.

6. A wetness indicator as set forth in claim 5 wherein said wetness indicator has a width between about one-fourth its length and about three-fourths its length.

7. A wetness indicator as set forth in claim 1 wherein said enclosure has at least two chambers.

8. A wetness indicator as set forth in claim 7 wherein said chambers are generally elongate and parallel.

9. A wetness indicator as set forth in claim 7 wherein said enclosure comprises a liquid permeable lining and a base layer attached to said lining to form said chambers between the base layer and the lining.

10. A wetness indicator as set forth in claim 9 wherein said base layer is bonded to said lining along a series of parallel, spaced-apart seams.

11. A wetness indicator as set forth in claim 1 in combination with a garment, said wetness indicator being positioned in a crotch region of the garment.

12. A garment comprising an inner surface facing a wearer when wearing the garment, and a wetness indicator positioned relative to the inner surface for alerting the wearer when the inner surface becomes wet with liquid, said wetness indicator having a first stiffness when dry and a second stiffness greater than said first stiffness upon absorption of a preselected amount of liquid, said wetness indicator comprising a liquid permeable enclosure having an interior volume and a liquid absorbent body therein, the absorbent body having an unrestrained saturated volume greater than the interior volume of the liquid permeable enclosure.

13. A garment as set forth in claim 12 wherein said wetness indicator is positioned in the garment to press on the inner thighs of the wearer.

14. A garment as set forth in claim 12 wherein said garment comprises toilet training pants.

15. A garment as set forth in claim 12 wherein said wetness indicator is generally elongate.

16. A garment as set forth in claim 12 wherein said second stiffness is at least about five times greater than said first stiffness.

17. A garment as set forth in claim 16 wherein said second stiffness is between about five and about twenty-five times greater than said first stiffness.

18. A garment as set forth in claim 17 wherein said second stiffness is between about ten and about fifteen times greater than said first stiffness.

20. A garment as set forth in claim 12 wherein said enclosure has at least two generally elongate and parallel chambers.

22. A garment as set forth in claim 12 wherein said second stiffness is at least about five times greater than said first stiffness.

23. A garment as set forth in claim 22 wherein said second stiffness is between about five and about twenty-five times greater than said first stiffness.

24. A garment as set forth in claim 23 wherein said second stiffness is between about ten and about fifteen times greater than said first stiffness.

25. An article for personal wear capable of alerting a wearer to the wearer's release of liquid body exudates, the article comprising a front region, a back region and a crotch region interconnecting the front and back regions and extending generally longitudinally therebetween, and a generally elongate wetness indicator positioned in said crotch region so as to come in contact with the liquid body exudates, said wetness indicator having a first stiffness when dry and a second stiffness greater than said first stiffness upon absorption of a preselected amount of the liquid body exudates, said wetness indicator being positioned transversely in the crotch region such that opposite ends of said wetness indicator provide a

tactile sensation to the inner thighs of the wearer for alerting the wearer to the release of liquid body exudates.

26. An article as set forth in claim 25 wherein the wetness indicator comprises a liquid permeable enclosure and an absorbent body within said liquid permeable enclosure, said absorbent body being capable of expansion upon the absorption of liquid body exudates thereby, said enclosure limiting the expansion of the absorbent body whereby the wetness indicator stiffens as liquid body exudates are absorbed by said absorbent body.

27. An article as set forth in claim 26 wherein said second stiffness is at least about five times greater than said first stiffness.

28. An article as set forth in claim 26 wherein an unrestrained saturated volume of the liquid absorbent body is greater than the volume of the liquid permeable enclosure.

30. A wetness indicator as set forth in claim 1 wherein said second stiffness is at least about five times greater than said first stiffness.



31. A garment as set forth in claim 13 wherein said wetness indicator is generally elongate and is transversely positioned in a crotch region of the garment such that opposite ends of the elongate wetness indicator provide a tactile sensation to the inner thighs of the wearer.

**EVIDENCE APPENDIX**

None.

**RELATED PROCEEDINGS APPENDIX**

None.